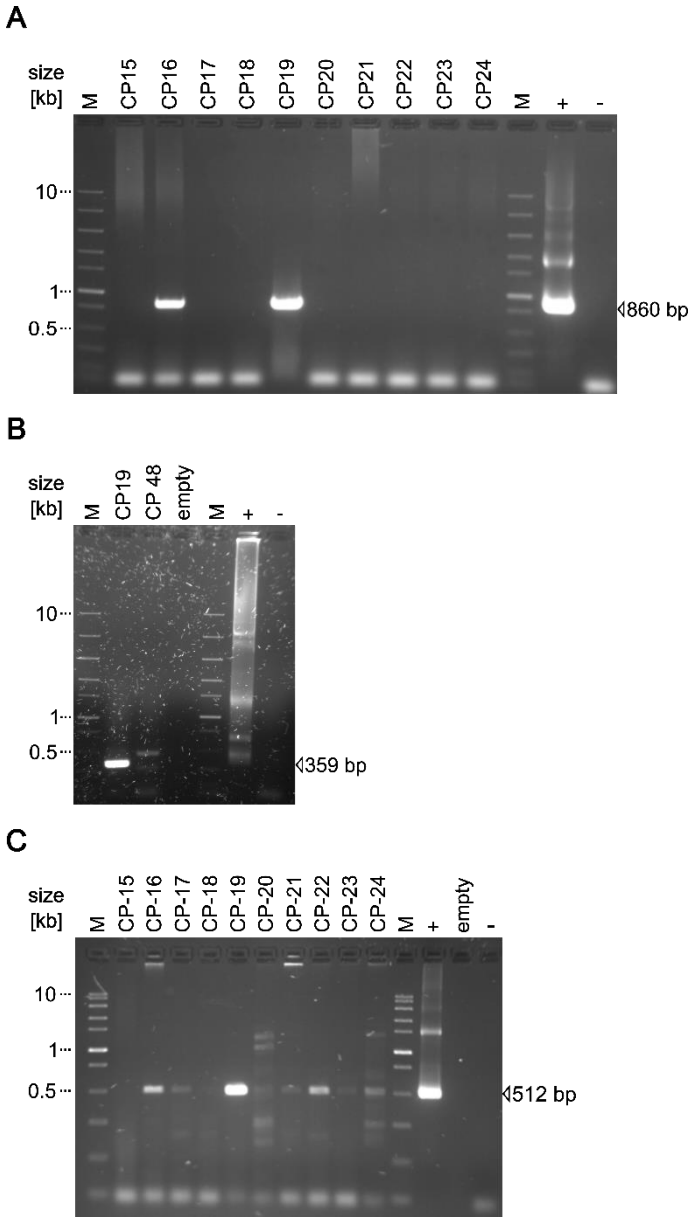
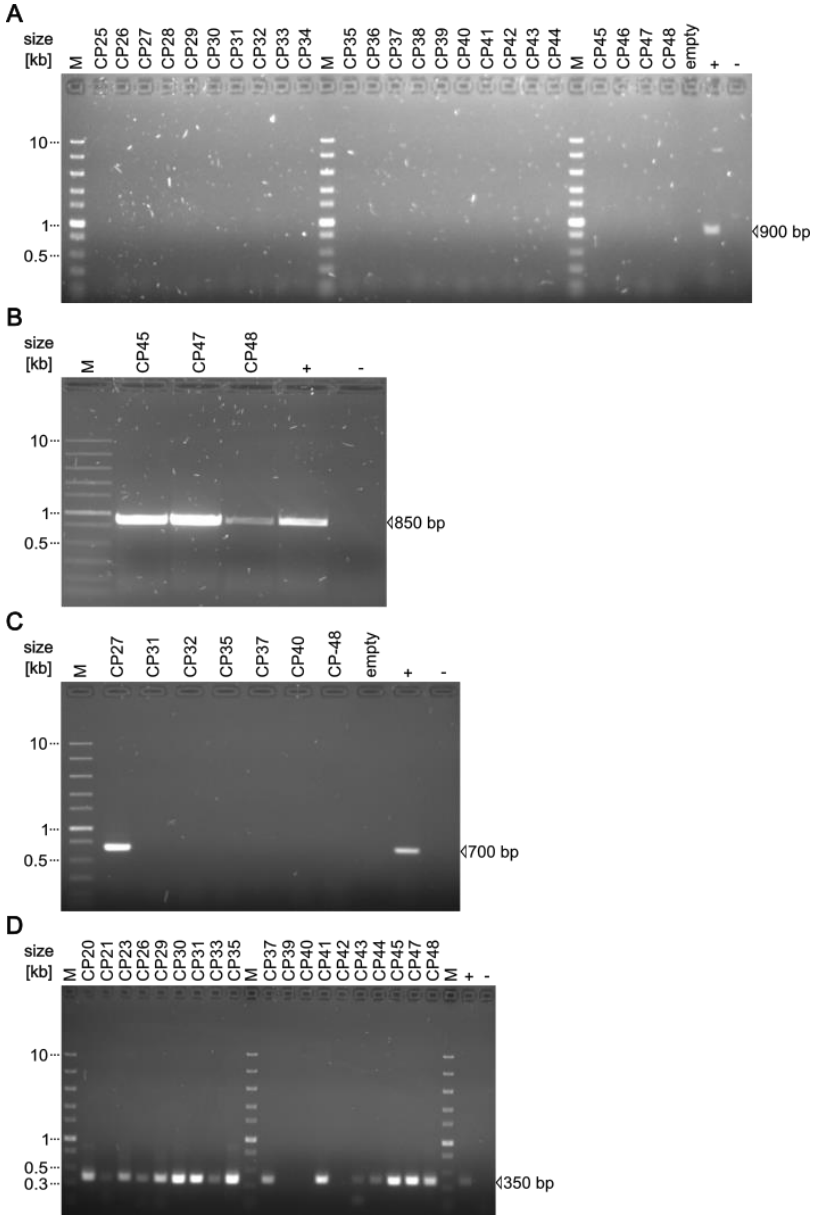


Supplementary Figure 1: Agarose gel images of pea necrotic yellow dwarf virus (PNYDV) PCR products. These images display the results of PCR tests targeting three distinct genomic segments of the virus. (A) DNA-R segment. (B) DNA-M segment. (C) DNA-S segment. The '+' symbol indicates the positive control sample, while the '-' symbol represents the water or negative control sample. The presence of bands in the '+' samples and absence in the '-' samples demonstrate the specificity and effectiveness of the PCR tests in amplifying the respective PNYDV genomic segments.



Supplementary Figure 2: Detection of RNA viruses in chickpea samples using reverse transcription polymerase chain reaction (RT-PCR). The figure presents agarose gel electrophoresis images for different virus groups. (A) Amplification products indicating the presence of tospoviruses. (B) Gel electrophoresis image showing the detection of pea enation mosaic virus 1 (PEMV-1). (C) Amplified fragments corresponding to the presence of potyviruses. (D) Identification of luteoviruses through distinct amplification products. Each gel image provides a snapshot of the viral diversity within chickpea samples, demonstrating the broad range of RNA viruses potentially impacting chickpea health.

A

B

C

D

E

F

G

Supplementary Figure 3: Representative images of symptomatic chickpea plants observed in the field. These images provide visual evidence of viral infection patterns. (A) Plant exhibiting symptoms indicative of a single infection with Pea necrotic yellow dwarf virus (PNYDV). (B) Plant showing symptoms consistent with a single infection with Turnip yellows virus (TuYV). (C) Plant displaying symptoms characteristic of a single infection with Pea enation mosaic virus 1 (PEMV-1). (D) Plant demonstrating symptoms of a double infection with PNYDV and TuYV. (E) Plant presenting symptoms of a double infection with TuYV and PEMV-1. (F) Plant with symptoms suggestive of a double infection with PNYDV and Bean yellow mosaic virus (BYMV). (G) Plant showing symptoms of a triple infection with PNYDV, TuYV, and PEMV-1. These images illustrate the variation in disease symptomatology based on the type and number of viral infections present.

Supplement Table S1: List of primers used for viral detection in chickpea samples.This table provides the primer sequences used in the detection of various viral pathogens, including PNYDV (here the corresponding targeted open reading frame (ORF) were amplified), luteoviruses, poleroviruses, pea enation mosaic virus (PEMV), potyviruses, and tospoviruses.

Virus	Primer name	Sequences (5' → 3')
PNYDV	Forward Primer M-Rep-ORF	ATGTCTCGCCAAGTTATATGTTGGTG
	Reverse Primer M-Rep-ORF	TCACACATTTACAATAATGATCCTATCCTCAC
	Forward Primer MP-ORF	ATGTCTCGCCAAGTTATATGTTGG
	Reverse Primer MP- ORF	CTAAATCATTCCTCCTGACGGAGG
	Forward Primer CP-ORF	ACCATGGCGCCGTTTGCTCAG
	Reverse Primer CP-ORF	TTATATTGCCACATATACCCTTCCTTC
Luteo- & Poleroviruses	Forward Primer (P6)	ATCACITTCGGGCCGWSTCTATCAGA
	Reverse Primer (P7)	CACGCGTCIACCTATTTIGGRTTITG
PEMV	Forward Primer (P1865)	AGCTAATCAACGGAGGAGAA
	Reverse Primer (P1866)	TGCTTGGAAGCCTTCGCAT
Potyviruses	Forward Primer (P1178)	GGIVVIGTIGGIWSIGGIAARTCIAC
	Reverse Primer (P1179)	ACICCRTTYTCDATDATRTTIGTIGC
Tospoviruses	Forward Primer (P69)	CCTTTAACAGTDGAAACAT
	Reverse Primer (P71)	TCATCRGARTGBACMATCCATCT